



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**227054-632103**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0102972</b>	GFL0090954	GFL0074783
Sample Date		Client Info		<b>27 Feb 2024</b>	14 Nov 2023	20 Aug 2023
Machine Age	hrs	Client Info		<b>10754</b>	10718	10611
Oil Age	hrs	Client Info		<b>0</b>	33417	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Changed	N/A
Filter Changed		Client Info		<b>N/A</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>2</b>	7	3
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>1</b>	2	<1
Lead	ppm	ASTM D5185m	>30	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>150	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

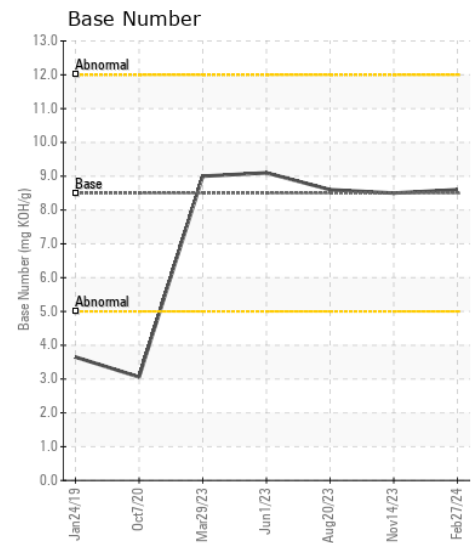
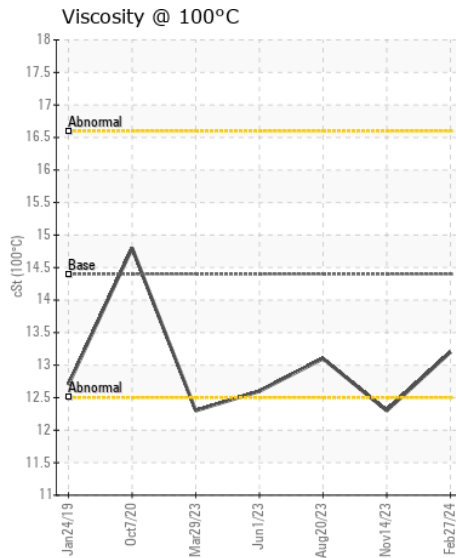
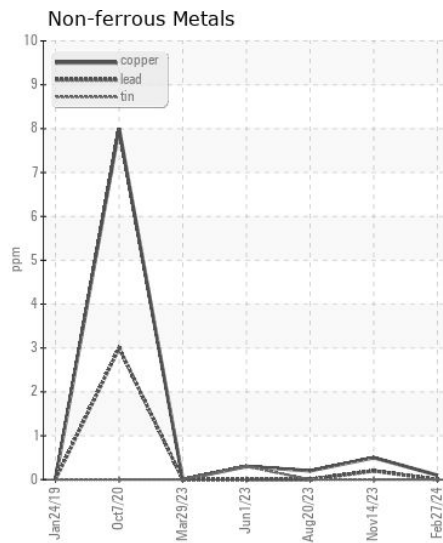
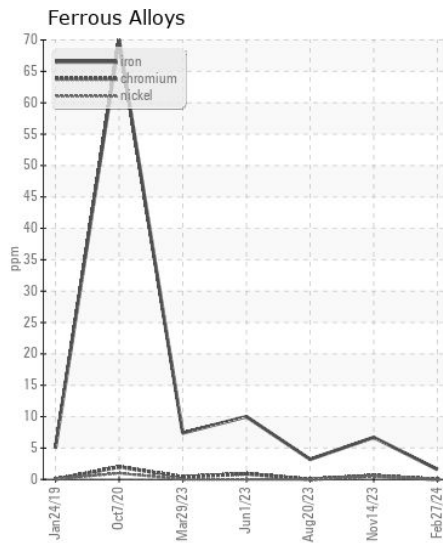
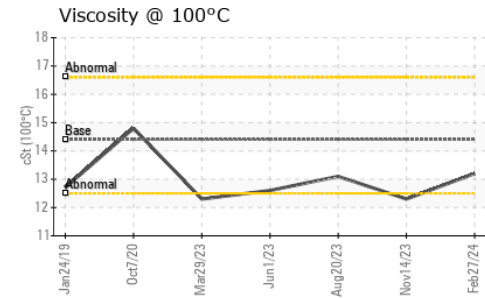
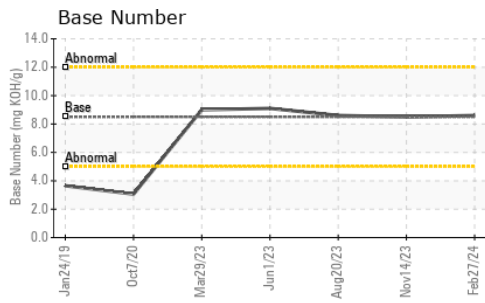
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	1.5	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.7</b>	7.9	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.9</b>	19.7	17.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>2</b>	0	1
Boron	ppm	ASTM D5185m	250	<b>8</b>	9	10
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>63</b>	65	64
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>992</b>	833	877
Calcium	ppm	ASTM D5185m	3000	<b>1120</b>	1108	1164
Phosphorus	ppm	ASTM D5185m	1150	<b>1195</b>	899	978
Zinc	ppm	ASTM D5185m	1350	<b>1351</b>	1179	1191
Sulfur	ppm	ASTM D5185m	4250	<b>3481</b>	3432	3558
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.0</b>	16.4	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.6</b>	8.5	8.6
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.2</b>	12.3	13.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0102972  
**Lab Number** : 06103574  
**Unique Number** : 10901804  
**Test Package** : FLEET

**Received** : 28 Feb 2024  
**Tested** : 01 Mar 2024  
**Diagnosed** : 01 Mar 2024 - Wes Davis

**GFL Environmental - 816 - WCA of South Arkansas**  
 3083 Smackover Hwy  
 El Dorado, AR  
 US 71730  
 Contact: Mike Howell  
 mike.howell@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: